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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,953	05/25/2001	Kenneth C. Gross	51583/238	5975

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EXAMINER

NGHIEM, MICHAEL P

ART UNIT PAPER NUMBER

2863

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,953

Applicant(s)

GROSS ET AL.

Examiner

Michael P Nghiem

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2002 and 15 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-23, 25, 28-30, 32-34, 36, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 24, 26, 27, 31, 35 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicants' Request for Withdrawal of Office Action filed on November 15, 2002 has been acknowledged. The following new Office Action replaces the Office Action filed on September 11, 2002.

Specification

1. The substitute specification filed on January 8, 2002 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: a full clean form of the substitute specification was not submitted. Only pages 15-25 were received and could not replace the corresponding pages of the original specification. It is noted that page 25 of the substitute specification contains some information of page 26 of the original specification.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 27, "the system comprises a biological **heart**" is not described in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-23, 25, 28-30, 32-34, 36, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Gross et al. (US 5,764,509).

Gross et al. discloses all the claimed features of the invention.

Regarding claims 21, 29, and 32, Gross et al. discloses a method and computer system (Figs. 1, 2) for monitoring the operating condition of a system characterized by a succession of waveforms (Abstract, lines 2-3), comprising:

- obtaining a reference waveform having a reference sample count (expected values generated by time varying data, Abstract, lines 2-6);

- obtaining a monitored waveform from the system (current actual values, Abstract, line 7);

- resampling the monitored waveform with a digital fractional resampling filter (low pass filter, Fig. 2) such that the sample count of the monitored waveform matches

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the reference sample count of the reference waveform (correlate the reference signal Z_k to the measured signal Z_j , Fig. 2);

- comparing the resampled monitored waveform to the reference waveform to determine the operating condition of the system (Abstract, lines 7-9).

Regarding claims 22 and 33, Gross et al. discloses a pair-wise comparison of like sample values from each of the resampled monitored waveform and the reference waveform (column 61, lines 30-32).

Regarding claims 23, 30, and 34, Gross et al. discloses comparing the resampled monitored waveform to the reference waveform using a sequential probability ratio test (column 61, lines 49-52).

Regarding claims 25 and 36, Gross et al. discloses aligning the resampled monitored waveform with the reference waveform (correlating the measured signal to the reference signal, Fig. 2).

Regarding claims 28 and 39, Gross et al. discloses that the system comprises an industrial device (Abstract, lines 1-2).

Regarding claim 38, Gross et al. discloses that the system comprises a biological system (column 62, line 65 – column 63, line 2).

Allowable Subject Matter

4. Claims 24, 26, 27, 31, 35, and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons For Allowance

5. The method or combination as claimed wherein a computer system comprising obtaining variance information for each sample in the reference waveform, differencing the reference waveform and the resampled monitored waveform to produce a residual waveform, and performing a sequential probability ratio test on a sequence of samples in said residual waveform using the variance information (claims 24, 31, 35) or the aligning step includes the use of a bounded angle ratio test (claims 26, 37) or the system comprises a biological heart (claim 27).

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (571) 272-2272. The examiner can normally be reached on M-H from 6:30AM – 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached at (571) 272-2269. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


MICHAEL NGHIEM
PRIMARY EXAMINER

Michael Nghiem

December 5, 2003